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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,854	02/15/2001	Christiane Gottschalk	ASX-056(473/	9143

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EXAMINER

MARKOFF, ALEXANDER

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/701,854

Applicant(s)

GOTTSCHALK ET AL.

Examiner

Alexander Markoff

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 12, 13 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicants amended the claims to recite that adding CO<sub>2</sub> increases the concentration of ozone. The concept of increasing the concentration of ozone by adding CO<sub>2</sub> has not been recited by the original disclosure.

This also raises a question of enablement. How can introduction of CO<sub>2</sub> can increase the concentration of ozone?

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 12, 13 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

All claims are indefinite because it is not clear how can introduction of CO<sub>2</sub> increase the concentration of ozone.

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It is also not clear compare with what it is increased.

Claim 2 is indefinite because it is not clear what is meant by the requirement to recirculate the spent ozonized water with fresh ozonized water. How can the fresh water be recirculated?

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1-4, 7, 9-13 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al (US Patent NO 6,080,531) in view of WO 95/02895, EPA 497247 and the state of the art admitted by the applicants in the specification.

Carter et al teach a method and apparatus for cleaning semiconductor devices with ozonated water in which CO<sub>2</sub> is added to stabilize ozone. The reference also teaches isolating the cleaning space from the environment (air).

The reference does not provide the details of the apparatus, however, the claimed overflow, circulation, filters, mixers, etc and their use were conventional in the art as evidenced by WO 95/02895, EPA 497247 and admitted by the applicants in the specification (page 1).

It would have been obvious to an ordinary artisan at the time the invention was made to implement the method and device of Carter et al in conventional methods and cleaning systems in order to prevent decomposition and stabilize the concentration of ozone in ozonized water.

Carter et al do not specifically teach using the same contactor to introduce CO<sub>2</sub> into the water, which is used to introduce ozone. The reference states that any conventional method can be used to introduce CO<sub>2</sub>. The use of the same device for introduction of different gases was conventional in the art as evidenced by EP 497247.

It would have been obvious to an ordinary artisan at the time the invention was made to use the same contactor to introduce CO<sub>2</sub> and ozone with reasonable expectation of success in order to use the same equipment for the different purpose.

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2. Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al (US Patent NO 6,080,531) in view of WO 95/02895, EPA 497247 and the state of the art admitted by the applicants in the specification as applied to claims 1-4, 7, 9-12, 13-18 and 22-24 above, and further in view of Yokomi et al (US Patent No 5,370,846).

Carter et al modified by the teachings of the secondary references and admitted by the applicants prior art teaches the claimed invention except for the step and means for adding CO<sub>2</sub> into oxygen used for ozone generator.

However, Yokomi et al teach that it was known to add CO<sub>2</sub> into oxygen to stabilize the work of the ozonizer and to obtain higher ozone concentration.

It would have been obvious to an ordinary artisan at the time the invention was made to add CO<sub>2</sub> to oxygen used in the ozone generator in the method and apparatus of modified Carter et al to achieve the higher concentrations of ozone and stabilize the work of the ozonizer.

### ***Response to Arguments***

3. Applicant's arguments filed 3/18/03 have been fully considered but they are not persuasive.

The applicants have amended the claims to recite that CO<sub>2</sub> is introduced to ozone prior to dissolving ozone in water.

This limitation is addressed in the rejection above.

The applicants also rely on the newly introduced limitation of "increasing" the ozone concentration.

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It is also noted that in contrast to the applicants statement Carter et al teach obtaining concentration of ozone up to the saturation point, i.e. maximum point to which the concentration of ozone can be increased.

This limitation is also addressed in the rejection above.

The examiner's position is that the claimed invention would have been obvious to an ordinary artisan for the reasons provided in the rejections.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday - Friday 8:30 - 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 703-308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7719 for regular communications and 703-305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Alexander Markoff  
Primary Examiner  
Art Unit 1746

am  
June 16, 2003

ALEXANDER MARKOFF  
PRIMARY EXAMINER